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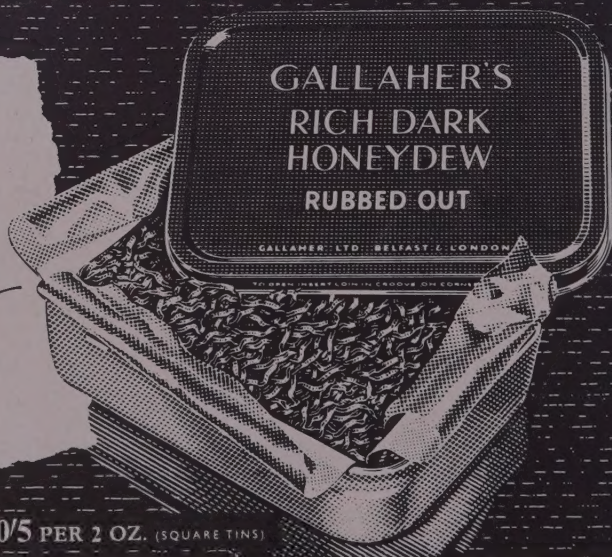
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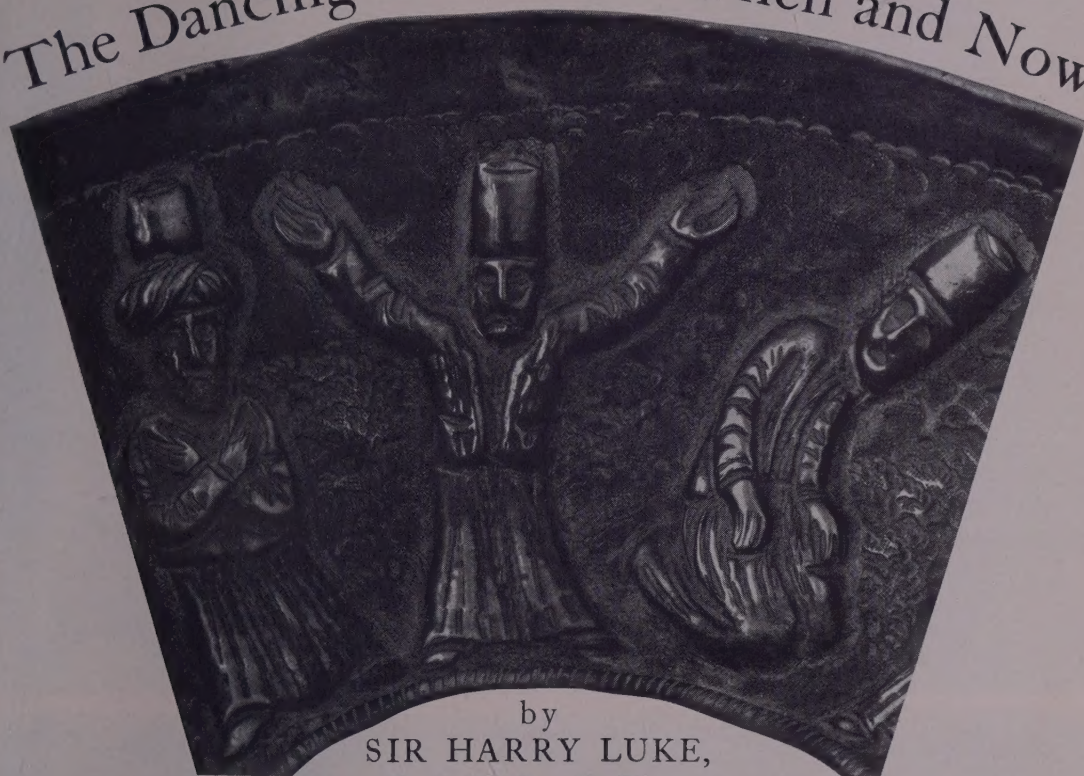
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The Dancing Dervishes—Then and Now



by
SIR HARRY LUKE,
K.C.M.G., D.Litt.

IN the year 1219 the Persian sage Beha ed-Din Veled and his son Jelal ed-Din left their native Khorasan for the west to escape from the advancing Mongol hordes. They settled in Konya, capital of the Seljuk Sultanate of Rûm in Asia Minor, a state so called because the Seljuk Turks—forerunners into western Asia of their kindred tribe, the Ottomans—had conquered it from the Byzantines, to whom there still clung the fiction that they were Romans. The son, known later as Jelal ed-Din er-Rûmi after his new home, was to become one of the great poets of Islam and one of the holiest of its mystics, who set forth his doctrines with much lyrical feeling in the *Mesnevi*. Jelal ed-Din's teaching flowered in a Dervish Order, the dervishes being the organized mystics of Islam. There are various Dervish Orders just as there are various Orders in the monasticism of western Christianity, each with its distinguishing habit and rules. The members of that inspired by Jelal

ed-Din are the Mevlevi, known vulgarly to the West as the Dancing Dervishes; he himself is revered by his followers as Hazreti Mevlana, 'our Holy Lord'.

The purpose of Moslem mystic teaching is to enable the devout soul to be reunited with God, from whom it has become separated by its birth into the world. The return journey to God is made along a 'way' or 'road' (*tariq*), whereby one of the Dervish Orders is to be understood; the stages of the 'way' are represented by the *zîkr*, the ritual (differing according to the Order) designed to produce the state of ecstasy wherein the mind is withdrawn from earthly things and brought into communion with the Divine. The *zîkr* devised by the Mevlevi to achieve this end consists of gyrating on an oval wooden dancing-floor to the music of flutes, strings and drums.

The Grand Mastership of this Order became hereditary in the family of Jelal ed-Din er-Rûmi. During certain periods of Ottoman history,



illustrations, except three, from the author



(*Opposite, top*) The *Mevlevi-khané* in Konya, the former headquarters of the Dancing Dervishes, as it is today. The small domes and chimneys above its outer walls surmount the old dervish cells. To the right of its minaret are the tiled drum and 'candle-extinguisher' cupola above the tomb of the Mevlana, the founder of this Dervish Order. The Turkish peasant woman in the foreground is walking past the 16th-century Ottoman Selimié Mosque. (*Opposite, bottom*) The entrance to the shrine containing the tomb of Mevlana, in 1913. The dervish tombstones, some topped by their hats, have since been transferred to the back of the compound, and the small pavilion removed. (*Right*) Veled Chelebi, the last Grand Master of the Order, as he appeared in his prime, from a photograph which was given by His Eminence to the author in 1913. (*Below*) The interior of the quadrangle of the *Mevlevi-khané* as it is today, again showing the chimneys of the former dervish cells. In the corridors is now exhibited a superb collection of ancient Turkish rugs and fabrics



which extended into the 20th century, it was the privilege of its holder—generally known as ‘the Chelebi of Konya’—to gird the new Sultans with the sacred sword of Osman on their accession. The ceremony, performed in the Mosque of Eyoub on the Golden Horn, was the Turkish equivalent of a Christian coronation, whence it will be understood that the Chelebis of Konya were spiritual lords of the highest dignity.

Beha ed-Din and his son could have chosen no more propitious refuge for their studies and teaching; Konya had been a focus of civilization long before the Seljuk Sultan Ala ed-Din Kai Qobad I made it a centre of Islamic culture. Indeed, its name recedes into the very mists of antiquity, for it figures as Ikonion in the legend of Perseus and the Gorgons. In Ikonion, to come to historical times, rested Xenophon’s Ten Thousand; here Cicero, Pro-Consul of Cilicia, reviewed his troops; here Paul and Barnabas preached the Gospel after leaving Cyprus; here, almost at the outset of the Third Crusade, halted Emperor Frederick Barbarossa two weeks before he was drowned in the river Calycadnus, now the Göksu.

Konya was by then the nucleus of a brilliant independent kingdom, capital of a dynasty which ruled a large part of Asia Minor from the end of the 11th century to the beginning of the 14th. During that period the enlightened princes of Rûm, pre-eminent among the monarchs of Turkish race as patrons of art and learning, embellished their cities from the Black Sea to the Mediterranean with monuments of a highly interesting type of Moslem architecture. The Seljuk rulers, placed between two civilizations, the Arab and the Iranian, had the wisdom to make the best of both: they imported their architects from Syria; their painters, potters and tile-makers, as well as their philosophy, from Iran. To their Arabic Moslem names—Ala ed-Din, Izz ed-Din and the like—they added those

of the Persian pre-Islamic heroic age, names such as Kai Khosrau, Kai Qobad, Kai Kaus. They made Konya one of the most illustrious cities of the East. ‘See all the world,’ ran a mediaeval Turkish proverb, ‘but see Konya.’

So much in explanation of the place at which I spent the first part of my leave in 1913 from my official post in Cyprus; for it was in Cyprus that I first became interested in the Mevlevis’ history and ritual. From time to time I would attend a zikr in the *sema-khané* (dancing-room) of their *tekyé* (convent) in Nicosia; I was very friendly with their Sheikh, who gladly gave me letters of commendation to his hierarchical superior in Konya. I saw the Chelebi daily during my stay there, either in the Mevlevi-khané or at his country-house at Meram, the summer resort six miles away to whose many springs Konya may owe its foundation. His Eminence Veled Chelebi Effendi was the thirty-first (and in the event the antepenultimate as well as the last) ‘Sitter on the sheepskin (*Postnishin*) of the Holy Mevlana in Konya’, to give him his full official title. A man in his middle forties, his mien was grave and amiable, his features were of high-bred Persian cast, his long pointed beard, when I first met him in 1913, was black. Dressed in an olive-green cassock worn under a purple gown, on his head the tall Mevlevi beehive bonnet of camel hair bound with the green turban denoting a Sheikh of the Order, he looked as much a part of a Persian miniature as did his surroundings. These were two cells no bigger than those of the ordinary dervishes: first a tiny yellow ante-room almost filled by a stove of Persian faience; then an equally low inner chamber with broad divans ranged against the walls. The divans, raised barely a foot from the floor, were covered like the floor with fine old Turkish rugs—Ladik, Giordes, Ushaq; and on one of them, sitting literally on his titular sheepskin, was the Chelebi, then regarded as one of the holiest personages of

the Sunni Mohammedan world. Squatting opposite him on another divan was his second-in-command, writing a letter at the Chelebi’s dictation. On the walls hung finely written Koranic texts; on the ground lay some folios bound in soft leather.

In the course of the ensuing week I noticed that whenever the Chelebi had need to consult the time he produced from the folds of his Kashmir sash a gold watch



A. J. Thornton

of unusual size. The Chelebi was proud of this monumental piece, whose lid bore in brilliant the Imperial *Tughra*, traditional cipher of the Ottoman Sultans. It was the gift of the reigning monarch, Mehmed Reshad V, whom the Chelebi had girded with the sword of Osman four years previously. Padishah and Postnishin had a two-fold link: Sultan Reshad had not only received investiture at Veled Chelebi's hands; he was also the most exalted lay brother of his Order. The Sultan's predecessor, Abdul Hamid II, had observed to the full the vicious tradition of the House of Osman whereby the rulers kept their heirs under permanent house arrest, and during his long reign of thirty-three years Reshad Effendi (as he then was) had had to languish in the drowsy seclusion of his Bosphorus palace, cut off from all contact with the outer world. No wonder he turned in his enforced inactivity to the comforting philosophy and precepts of Jelal ed-Dîn er-Rûmî.

The Mevlevi-khané lies in the eastern part of the town, separated only by the width of the road from the Selimié Mosque, Konya's finest monument of the Ottoman period which followed that of the Seljuks. The parent-house and sanctuary of the Dancing Dervishes is enclosed by a surrounding wall; a low entrance, piercing the western wing, leads into the great quadrangle, wide, sunny and paved with slabs of white marble. Before the Order's suppression this western wing with an extension on the north side was the residential part of the convent; it contained eighteen cubicles, each cubicle topped by a low leaden dome, the domes separated by graceful hexagonal chimneys. The Chelebi's quarters were the two cubicles (he alone occupied more than one) immediately to the right of the gate. Each dervish cell was equipped with door, fireplace, divan and a small window overlooking the road. A glazed corridor giving onto the quadrangle runs the length of the wing inside.

The quadrangle is bounded at its far end by a complex of connected buildings, part Seljuk but mainly 16th century, which supplied the dervishes' various spiritual needs. On the left of the entrance is a mosque for the ordinary Moslem devotions; leading from it is the sema-khané, the former dancing-room; on the right is the mausoleum containing sixty-five bodies including those of fourteen women. In a long chamber are the dead Chelebis of more than six centuries with some of their close relatives and companions. The tombs are either wooden or tiled; those of the Chelebis are topped by the beehive caps they



A Seljuk monument in Konya, the Injé Minaré medrese. The two upper stages of its lofty tiled minaret were destroyed by lightning in 1901. The building, now a sculpture museum, has been given a neat, municipal air wore in their lifetime; all are covered with Kashmir shawls or other precious stuffs.

Beyond this chamber, in the south-east corner, is the late 13th-century chapel built to contain the remains of Jelal ed-Dîn, Mevlana of the Dancing Dervishes, with his father and his son Sultan Veled. This 'holy of holies' is decorated with sumptuous but restrained magnificence. Thick columns, covered with gesso coloured deep red and gold, support the so-called 'Green Dome' above it; the walls are treated in the same fashion; not a square inch is without some form of adornment. Silver steps lead to the enclosing silver balustrade; from the dome hang heavy silver lamps. Here, under an immense pall of dark green satin with inscriptions heavily gold-embroidered, a gift of Sultan Abdul Hamid II, Mevlana and his son lie together in a double tomb. Mevlana's father stands beside them in a masterpiece of Seljuk wood-carving, buried erect as he died. Externally the shrine is equally arresting. The Green Dome is really a tower—pyramid roof resting on fluted drum. The drum is faced with tiles that are now bright blue, the most conspicuous landmark in Konya. The general effect of this necropolis of the longest-



This water-colour sketch of a dancing dervish in a state of trance was done by an English visitor to Asia Minor in the first half of the 19th century and was given to the author after his return from Konya in 1913

lived dynasty in Turkey is one of restrained, impressive splendour.

In Constantinople the *zikr* of the Mevlevis had tended to become something of a tourist attraction, but not in Konya, where tourists were then unknown. There, twice a month after the Friday prayer, the adepts would spin into ecstasy to the voice of the flute, the pipe 'cut from among the reeds of the marshes'. The spectators—men and women each in their several pens a few feet above the level of the floor—stood with hands folded over their stomachs, the conventional attitude of reverence, for the hour or so that the exercise lasted.

I had the luck to witness a *zikr* on one of the relatively rare occasions when the Chelebi himself took part in the dancing. After a service in the adjoining mosque some thirty dervishes filed into the dancing-room. They were followed

by the Chelebi and senior members of the Order, who entered from the side of Mevlana's tomb while a precentor chanted passages from the *Mesnevi*. The Chelebi then led the procession onto the floor; as each dervish passed the direction of the tomb he turned to bow to the man who followed.

Three times they processed around the floor. Then the Chelebi went to his appointed place; the dervish musicians moved to a raised platform where their instruments lay ready; the others threw off the cloaks that covered their dancing dress of long pleated skirt and zouave jacket, green or white. The flutes played a wailing melody in a minor key and the dancers began to whirl around with arms extended, the right palm turned up, the left down. The skirts opened with the motion in wide convolutions. Soon the dancers seemed to be moving automatically, unconscious of their surroundings. This went on for about twenty minutes; then a pause; then a fresh measure in livelier tempo. Another pause, followed by an expectant hush as

wind and strings announced the Chelebi's own special tune. Slowly His Eminence moved onto the middle of the floor and became the pivot around which the others revolved.

Poor Veled Chelebi. In 1919, six years after my first visit to Konya, I was to see him again. We met by chance in the Covered Bazaar of Stambul, his appearance so drastically altered that at first sight I was not sure if it was he or not. No longer did he bear himself as in the days of his abundance; all the starch had drained from the bent and shambling figure I saw before me. His beard was grey; his skin yellow; no green turban now encircled his dervish cap. Exactly what had happened I never knew, except that after his Imperial patron's death he went into total eclipse.

Total, but not final. Shortly before the suppression of the dervishes in 1925 he staged a

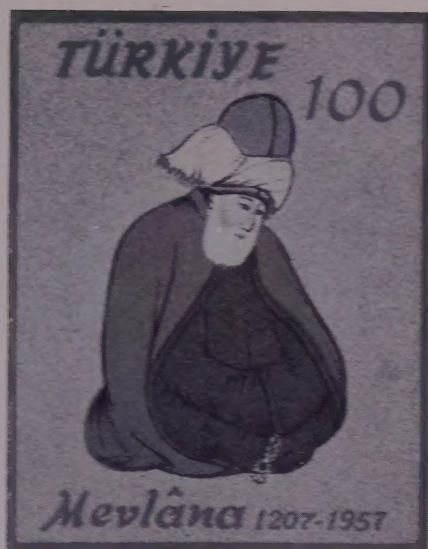
(Right) Mevlana Jelal ed-Din depicted on a special memorial Turkish postage stamp; and a Mevlevi Sheikh playing the flute, taken from a 17th-century miniature

come-back, replacing his cousin, predecessor and supplanter, Abdul Halem Chelebi, if only for a matter of months. So he had the doubtful privilege of seeing the Order out, and he was to live until 1953. The last three Chelebis had enjoyed no easy reigns, having suffered six depositions between them, two in the case of Veled. He experienced, therefore, in his eighty-six years his fair share of those ups and downs of fortune that add the spice of hazard to ecclesiastical careers in the Levant.

Kemal Atatürk suppressed the Dervish Orders in pursuit of his policy to laicize the new Turkey and converted the Mevlevi-khané into a museum. It was in accordance with this policy that the Republic rejected the theocratic conception of the Sultanate; but this has not meant that religion has been eradicated from the souls of the people. In 1959, when I revisited Konya for the first time since 1913, I was in the Mevlevi-khané on four occasions, on each for several hours on end; throughout this time there was a constant flow of Turkish visitors of both sexes and all classes, from well-to-do townees to peasants happily still wearing their bright Anatolian or Kurdish dress. At times, indeed, the place got uncomfortably full.

The significance of this lies in the fact that most of those people were there not so much to see a museum as to pray at a shrine that was clearly as venerable to them as it had been to their fathers. The devotion of the country folk was unmistakable, but even sophisticated townspeople approached Mevlana's tomb with hands held upwards before their faces in the attitude of worship and muttering a prayer. The museum authorities, whose knowledge, skill and taste are evident, have made recordings of Mevlevi dance music performed on the original instruments. At certain hours these are played in the shrine with excellent effect. Jelal ed-Din was passionately devoted to music, and in the former dancing-room are the reed pipes, lutes, fiddles and other strings, tambourines and drums that accompanied the dancing.

In 1913 I had taken some successful photographs of the Mevlevi-khané from the top of one of the Selimié Mosque's twin minarets. In 1959 my hostess of Ankara and I decided to climb the other one for the same purpose. The effort was rewarding, for the bird's-eye view of Konya was





A few years ago a son of a former Grand Master of the Dancing Dervishes began to organize—purely as a spectacle—a sort of revival of the Mevlevi dance. These performances are held in one of the Konya cinemas in December, the month of Mevlana's birth. They are not, of course, religious ceremonies—the Order remains proscribed—nor are the dancers and bandmen genuine dervishes, although dressed as such for the occasion: they are performers who act their parts, in order to show people of today something of what the original thing was like. The music, however, is authentic

All three photographs from Photo and Feature



perfect. I was glad to note that the general appearance of the town had not changed too drastically in the forty-six years since I had last looked down on it from that place; it might well have been otherwise, for the population has almost doubled notwithstanding the disappearance of the Greek and Armenian communities, and the Konya plain has become a centre of the new Turkish sugar-beet industry. There is now, of course, as I was to see, a sprinkling of very modern buildings, some sited too near the old ones; and several of the major Seljuk monuments have been prinked up and given a new, or rather a newish, look. Two examples of this process are the lovely Injé Minaré *medresé* ('The College of the Slender Minaret') whose two upper stages were destroyed by lightning in 1901, and the Karatai *medresé* with noble porch and tile-encrusted dome. These have been converted into small museums of Seljuk sculpture and ceramics respectively, a use proper, wise and commendable. The loss of some of the mellow patina worn by those venerable shrines while they yet basked in the sunset glow of gentle, sleepy decline is the price of their survival.

Less commendable are the two bars of neon lights slung crudely across the middle of the prayer niche of the Mosque of Sahib Ata, distinguished for its two porches and its tiles. Also the trim new Germanic layout of the citadel hill on which stands the Mosque of Sultan Ala ed-Dîn. How much more suitable it would have been, as my hostess remarked, just to have grassed the hill and perhaps to have dotted clumps of cypresses here and there. Now it is planted, all of it, with pines and deciduous trees in regular rows, destined increasingly as they grow up to hide the view of the mosque, its octagonal *türbé* (shrine) and in time its single minaret. Better for an ancient Seljuk city the bare and dusty *tell* of my first visit than the neat paths and avenues of Swiss suburbia.

Modernity was provided even by that solitary minaret—modernity in the form of comic relief—as we passed below it at the time of the call to evening prayer. Its topmost balcony is equipped, as is now becoming customary in Turkey, with a loudspeaker through which the muezzin, no longer required to climb to the top of the minaret but sitting at ease at its foot, summons the faithful to their devotions. Suddenly the loudspeaker blared forth not the majestic cadences of the *azan* but the equally sonorous if less solemn sounds of the clearing of



a male throat of two substantial obstructions. The muezzin had failed to realize he was already on the air.

I left Konya well pleased with my Rip Van Winkle return, relieved that the inevitable intrusions of incongruous modernity are neither too numerous nor too oppressive. An occasional jar here and there was the least to be expected in an old country that has changed almost out of recognition in the last forty years. And the well-meant inanities of organized tourism are mercifully absent: travellers arriving by road encounter no banners proclaiming that Konya welcomes them; face no sloppy valedictory slogans as they depart.

If the political exigencies of the new Turkey have banished the brotherhood which gave its stamp and meaning to the City of Dancing Dervishes, the shrine it created has become no lifeless shell. Its beauty is not frozen, nor is the voice of Mevlana Jelal ed-Dîn stilled. As for the works of those inspired builders, the Sultans of Rûm, it is reassuring to know that the legacy of the most brilliantly creative period in the history of Turkish art is of deep concern to Turkish scholars of today.

National Parks of Africa

Photographs by RICHARD HARRINGTON
Notes by LYNN HARRINGTON

A large part of Africa has been designated as game reserves or national parks. These vary in size from the 8650 square miles of Kafue in Northern Rhodesia to little ones only a few square miles in extent, and their administration, even their purpose, is as varied. The first to be established is also the one that is best known outside Africa: the Kruger National Park. It was started in the Transvaal in 1898 and its example has been followed widely in other British territories, and in the Congo and Portuguese East Africa as well. Kenya, Uganda and Tanganyika, for example, are thick with national parks and reserves.

Many of the parks and reserves specialize in a particular type of animal: crocodiles at Murchison Falls; the Gemsbok National Park in the Kalahari to preserve the slender black-and-tan antelope of the same name; Addo Elephant Park, Cape Province; the rare white rhino of Hluhluwe in Natal; and so on.

Some are extremely popular tourist attractions, with rest camps and safari lodges; and a few even have fully fledged hotels.



A. J. Thornton

(Right) All over the world the main object of visitors to zoos, national parks and game reserves appears to be to feed the animals—monkeys in the Nairobi Park, rather than the crocodiles, which are unlikely to be satisfied with a slice of bread. (Below) 'No-one ever wants to court a wart-hog . . .'



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(Above and opposite, bottom) Natural camouflage is decorative as well as being a defence. Others use their horns, among them *(opposite, top)* Messrs Swann and Flanders's favourite, the gnu





Opposite, top) Flamingoes form a pink cloud across the surface of pools in the Uganda national parks. *Opposite, bottom)* The impala of central and southern Africa are the most attractive and graceful of all. *(Right)* Not all reserves can boast such smartly uniformed Rangers as those in the Kenya national parks. *Below)* 'Mud, mud, glorious mud.'



Contrasts in the Canaries

by ROBERT T. LEWIS

THOUGH the Canary Islands number thirteen, this has never been held against them as an omen of ill luck, for they have been called variously the Fortunate Islands, the Blessed Isles, Elysian Fields and the Garden of the Hesperides, never the Unlucky Isles. Pliny is credited with the modern version, which translated means the Isles of Dogs; *canis* is the root of the word Canary. It was the islands that gave the name to the singing birds and not the birds to the islands.

After two months in the Canaries, any of these nicknames seems justified, but their variety suggests that the islands are hard to characterize either by their charm or by their deficiencies. In my own mind there is a confused picture, a mosaic pieced together from varied impressions; of islands as arid as the Sahara yet producing luxuriant crops; glorious hedgerows; of geraniums growing to heights hitherto unknown to me, spilling over the terraces of houses like pink champagne; of green fertile lands climbing up the folds of mountains while on the other side man is trying to scratch a living from the parched and crumbling soil.

The one operative word in Grand Canary is 'agua'. Our driver would slow down whenever

there was a reservoir and point proudly: 'agua,' he would say. Once he took us a few miles out of our way to see a 'waterfall' that would hardly have merited the attention of a plumber during a winter thaw.

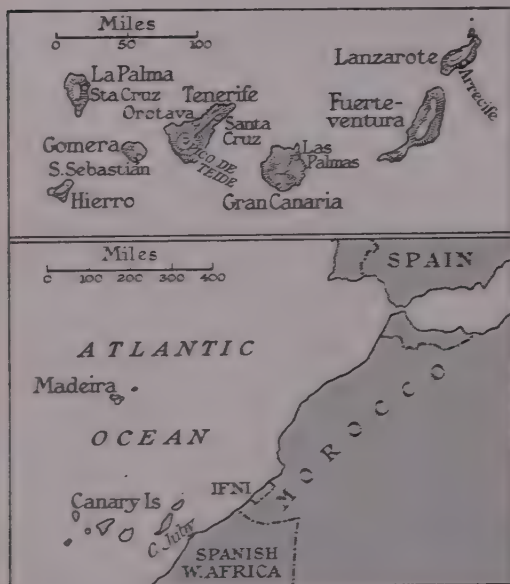
To me they are paradoxical islands, islands of extremes where extremes continually meet. The people are happy and cheerful in conditions that are primitive, where available food is scanty and the diet unbalanced. But they often prefer a cave dwelling to the modern flat proffered by the ambitious *ayuntamiento*. In such a land there are more important things than piped water and electricity; and where in such new-fangled buildings could one keep a goat and a pig and perhaps a donkey?

Grand Canary is split, as are most of the islands, by a spinal mountain range, one side robbing the other of rain. Yet on the dry side will be found the huge tomato fields, looking like some giant's cat's-cradle, from which we in Britain get our first supply. They seem to rely, more than do the banana growers, on the few days of rain each year. There is not the obvious effort to irrigate that you see in Tenerife.

The coastal road from Las Palmas to Maspalomas, at the southern end of the island, takes you through a country that might be African, with Moorish-type buildings and the odd palm tree scattered along the route. And at Maspalomas, with its delightful bathing beach of miles of golden sand (all sand is not golden in a volcanic island), you are startled when you come upon a camel drinking at what might be a Sahara oasis, where huge sand dunes are built up by the wind.

Here at lunch time come the young tomato-pickers, heavily clad and shaded by their bonnets. None accepts the invitation of the rolling breakers, even to paddle. The attraction seems to be the quaint tourists who enjoy such pleasures.

Tenerife, the most beautiful of the islands, is capped by Teide's distant crater. Compared with Grand Canary it may be lacking in bathing beaches, yet this is more than outweighed by the charm and delight of its countryside. Humboldt, when he came upon the Orotava valley, described the landscape as 'the most enchanting



A. J. Thornton



All Ektachromes by R. L.

The church at Teror, near Las Palmas, was built in 1765, but its tower is of earlier date. It contains the image of the Virgin of the Pine, who miraculously appeared in a pine tree in 1481



The parade of photographers in the Pueblo Canario in Las Palmas, the model village which is the island's greatest tourist lure—

—where, on Sundays and holidays and on the arrival of a cruise ship, local dancers and singers perform in traditional costume





Las Palmas's luxury hotel, the Santa Catalina, is designed in true Canary style, even to the Dragon trees which flank the entrance

(Right) A Lanzarote girl with the unmarried woman's head-dress.
(Below) San Gabriel, an 18th-century fort at Arrecife, Lanzarote



The mole at Santa Cruz de Tenerife snakes out to meet ships from all parts of the world; they are usually moored bow to stern along its whole length loading early tomatoes and potatoes for Britain





The mountains rise dramatically up behind Santa Cruz de Tenerife



Water towers on La Palma collect and pump water from the hills

that eyes have ever seen'. So too are the lands unfolding round the valley of Laguna, the majesty of the mountains seen from Pico del Ingles, where between extinct volcanoes small villages have climbed up in the path of the sun. And above all the ever-fascinating harbour of Santa Cruz with its dramatic backdrop of mountains, spotlighted by the moving sun and changing their hues continually as the cloud shadows pass over them.

Flying from Las Palmas to Lanzarote you land first at Fuerteventura. Looking down from your plane the craters seem like great lobster pots trying to suck you into their maw. This island can pass through the year without rain. It seems to have neither trees nor birds. Yet its two ports are busy, exporting chiefly the tomatoes that grow in the lava-covered soil. As if in compensation for its past evils, the lava absorbs the moisture from the night air, making rain and irrigation unnecessary. The only beast of burden is the camel, so that the scene becomes entirely African. And indeed Cape Juby is only some sixty miles away.

Lanzarote with but a few days' rain a year thrives similarly. With an excellent *parador*, or government hotel, Lanzarote invites the tourist. The experience should not be missed and no hardship is suffered. As you tour the island you will be taken over the most desolate, austere, frightening countryside you have ever visited: acres of lava rock over which it is impossible to walk, and rising out of this dismal waste, rocks that have been weathered into the strange shapes of prehistoric monsters. Then you suddenly come upon a trim estate where crops are growing: figs, grapes, corn, sweet potatoes and onions, all to be exported from the busy port of Arrecife. Pill-boxes of lava rock, some three feet high, surround the growing plants shielding them from the wind. In deeper hand-made ditches the fig trees grow: no feeble growths; they are giants of their own kind. The whole side of a volcano will be festooned with these pill-boxes.

You can explore the moon-like lands of these craters on camel-back. This is arranged beforehand and your camel will await your arrival, sitting contentedly on its haunches while its driver lies half hidden in a small lava-rock tunnel that takes his head and shoulders, protecting him from wind and sun.

Once at the summit you will understand why Lanzarote has been called the moon island.

Count the craters: up to a dozen. They popped up one after the other, turning Lanzarote from a delightful flat island into what it is by a series of eruptions at weekly intervals between 1730 and 1736; compared with these the eruption of 1824 was a trifling matter lasting only three months. After you have descended you will be taken to a spot where the earth is hot to the feet and where you can grill a steak for your picnic lunch over brushwood fired by the heat of a small cavern not three feet below the surface.

As you return you will see below you the salt-pans where the sea becomes solid blocks of salt, evaporated by the sun: salt to be used in curing the fish brought to the island by some 3000 island fishermen who fish off the African coast. The annual catch is valued at more than 20,000,000 pesetas.

La Palma is a green island best approached from Tenerife, whose inhabitants graciously concede to this island a beauty beyond their own. Its capital, Santa Cruz de la Palma, is obviously built in the crater of some volcano which filled with the sea and made the excellent port it is. If you are lucky enough to meet Señor Hidalgo, the erudite scholar of the island, he will interpret its charms in terms of craters and eruptions. He it was who went out with his palette and paints to depict the last eruption in 1949, working by the light from the volcano of San Juan. Take him on a tour and watch the delight in his eyes as he points out crater after crater, the same pride which we met in Grand Canary when a well-filled reservoir came into view. La Palma too is an island to explore and you can taste here the excellent malvoisie wine, the malmsey which won the approval of Falstaff. Santa Cruz has a main street at the end of which is a full-sized stone replica of Columbus's ship, the *Santa Maria*.

These are the islands I know, islands I want to visit again. The other two major islands, Hierro and Gomera, must be equally fascinating, easily accessible by inter-island ships and each prepared to receive visitors. (The remaining six of the thirteen are uninhabited islets.) They all remain unspoilt and tourists are still welcomed for their presence and not for the coins they bring. Here is the genuineness that you meet in the smaller islands of the Caribbean, with which they have much in common. What they can offer with sureness is kindness, comfort, spring in the midst of our own winter, at a cost which is more than modest in the terms of today.

The Pack-Horse on the Down : Daniel Defoe as Topographer

by FRANCIS WATSON, O.B.E.

In this article Mr Watson, author of a biography of Defoe, celebrates the tercentenary of the birth of that remarkable and many-sided man

It may have been the England of Chaucer's day that William Morris was idealizing in *The Earthly Paradise*:

Forget six counties overhung with smoke,
Forget the snorting steam and piston stroke,
Forget the spreading of the hideous town;
Think rather of the pack-horse on the down,
And dream of London, small, and white, and clean...

But to look back, in the tercentenary year of Daniel Defoe, at the island which he described so zestfully, is to feel at least a twinge of the Morris nostalgia. It also throws into relief the essential difference between them: that Defoe in 1724, when he published the first volume of the *Tour Through the Whole Island of Great Britain* at sixty-four, was looking forward.

Every age will find an increase of glory. And may it do so, till Great Britain as much exceeds the finest country in Europe, as that country now fancies they exceed her.

He would not have anticipated with any pleasure the smoke and dirt of the Industrial Age. He deplored even then, as John Evelyn had done in the previous generation, the noxious results of the domestic burning of 'sea-coals'. But he described, before the age of steam, the beginnings of the factory system in the Yorkshire woollen districts, where the presence of coal and running water together 'seems to have been directed by the wise hand of Providence for the very purpose which is now served by it, namely, the manufactures, which otherwise could not be carried on; neither indeed could one fifth part of the inhabitants be supported without them.'

As for London, assuredly it was by our present standards 'small, and white, and clean' in Defoe's day. But what struck him, and would have struck anybody, was the rebuilding of the City since the fire of 1666, and the great

expansion of the metropolis 'not only within our memory, but even within a few years'. Indeed it has been pointed out by G. D. H. Cole, who rescued Defoe's *Tour* from undeserved neglect in 1927, that relative to the rest of the population London was even larger in the early 18th century than it is today, with a much greater concentration of wealth and share of the national trade.

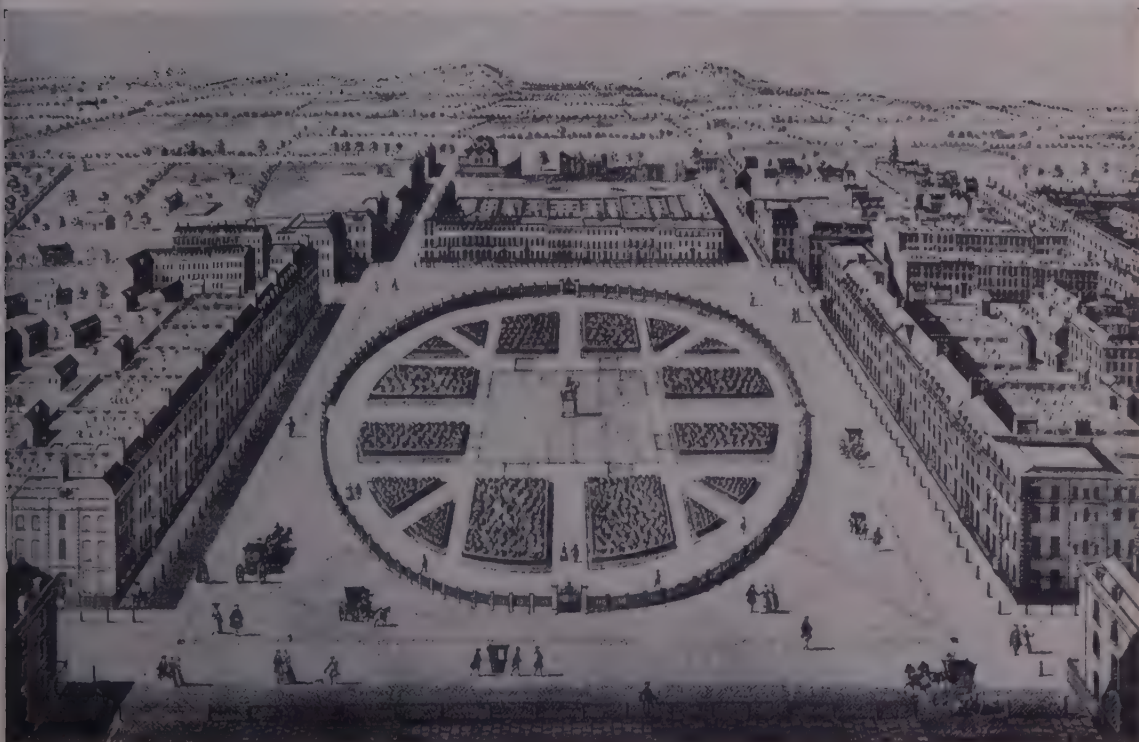
This significant fact, and the author's own experience and interests, make the pattern of the *Tour*, and much of its peculiar value. As compared with his well-known successors—the rural expert Arthur Young, and William Cobbett escaping from 'the Great Wen'—Defoe was a great Londoner as well as a great peregrinator. Outside Western Europe, where he had travelled a good deal in his earlier business days, his knowledge of the world was derived from his vast reading: with a retentive memory fed also, without any doubt, by informative talk on 'Change, on the road, in the dockside inn and the gentleman's library. He had the equipment to turn out a topography of his own country from similar sources alone, with as much facility as he could write *A New Voyage Round the World*. But in fact he did know Britain as a traveller of exceptional experience, as reporter, secret political agent and private merchant. His mention of riding his horse into the sea at John O'Groats and wetting his toes at Land's End is characteristic, and credible. As a lifelong traveller his chief anxiety in composing the *Tour* was to keep up to date with alterations and improvements, new buildings, better stretches of road, 'new discoveries in metals, mines, minerals; new undertakings in trade; inventions, engines, manufactures, in a nation pushing and improving as we are.'

This deliberately bracing atmosphere of stop-press journalism is felt mainly in relation to the more populous South, and to the expanding metropolis where several of the circuits begin

(Right) A London market scene, about 1720, as Defoe knew it when he set out to record the topography of Great Britain and the ways of living of its people, 'not forgetting the general dependence of the whole country upon the city of London, as well for the consumption of its produce as the circulation of its trade.' He described more than thirty London markets for horses and cattle, meat, fish, vegetables and fruit, grain, leather, coal, cloth and—as a sardonic afterthought—the 'Bubble Market' in Exchange Alley. London was growing, 'new squares and new streets rising up every day to such a prodigy of buildings, that nothing in the world does, or ever did, equal it, except old Rome in Trajan's time.' Grosvenor Square, in a contemporary engraving by Sutton Nicholls (below), was laid out about 1695 on the site of one of the Civil War fortifications, and marks roughly the north-west limits of London as Defoe knew it. The view to the northern heights was uninterrupted. There was new building at the west of Cavendish Square as his third volume went to press (1726), but Tottenham Court was still 'a little village on the Hampstead Road'



By courtesy of Kenneth Monkman



Defoe comments on the main roads out of London, and in 1725 mentions improvements under the new turnpike system between Highgate and Whetstone—a mere track in Moll's 1724 map

From A New Description of England and Wales by Herman Moll, Geographer (London, 1724)





Radio Times Hulton Picture Library

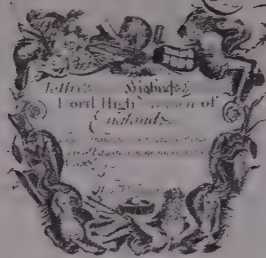
From East India Wharf at London Bridge to the Tower were seventeen wharves, 'an ornament to the city' and 'a testimony to the vast trade carried on in it'. (Attr. Samuel Scott, c. 1775)

and end. Defoe was preparing *The Complete English Tradesman* at the same time as the *Tour*, of which the three volumes appeared in due order in 1724, 1725 and 1726. In any phase of his prodigious output (500 or more separate titles, the scholars now tell us) there is variety. And his latter years, after *Robinson Crusoe* and the great burst of adventures and histories, provide excursions into the world of spirits and apparitions as well as the last fruits of his preoccupation with economics and sociological 'projecting'. But the material human activity which in a few more years he must himself at

last relinquish is still the dominant theme. Geography is what men do with their portion of the planet, and the key enquiry of the *Tour* is of the means by which London was provisioned from different parts of the kingdom. This branches naturally into observations of other movements of trade, inland and overseas, of communications, crafts and manufactures, and the use of land.

Defoe describes, for example, the causes and effects of the gradual turning over of the downland centred upon Salisbury Plain from wool to wheat: how the folding of sheep upon fallow and

Eddystone Light-house.



A Narrative of the Building

The Light-house was designed by Mr. Winstanley, who was then Master of the Ordnance, and was built by Mr. Thomas Smith, who was then Master of the Works at Portsmouth. The building was completed in the year 1697, and was the first of its kind in England. It was built on a rock in the middle of the sea, and was the first of its kind in the world. It was built by Mr. Thomas Smith, who was then Master of the Works at Portsmouth. The building was completed in the year 1697, and was the first of its kind in England. It was built on a rock in the middle of the sea, and was the first of its kind in the world.

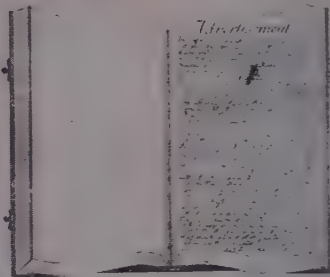
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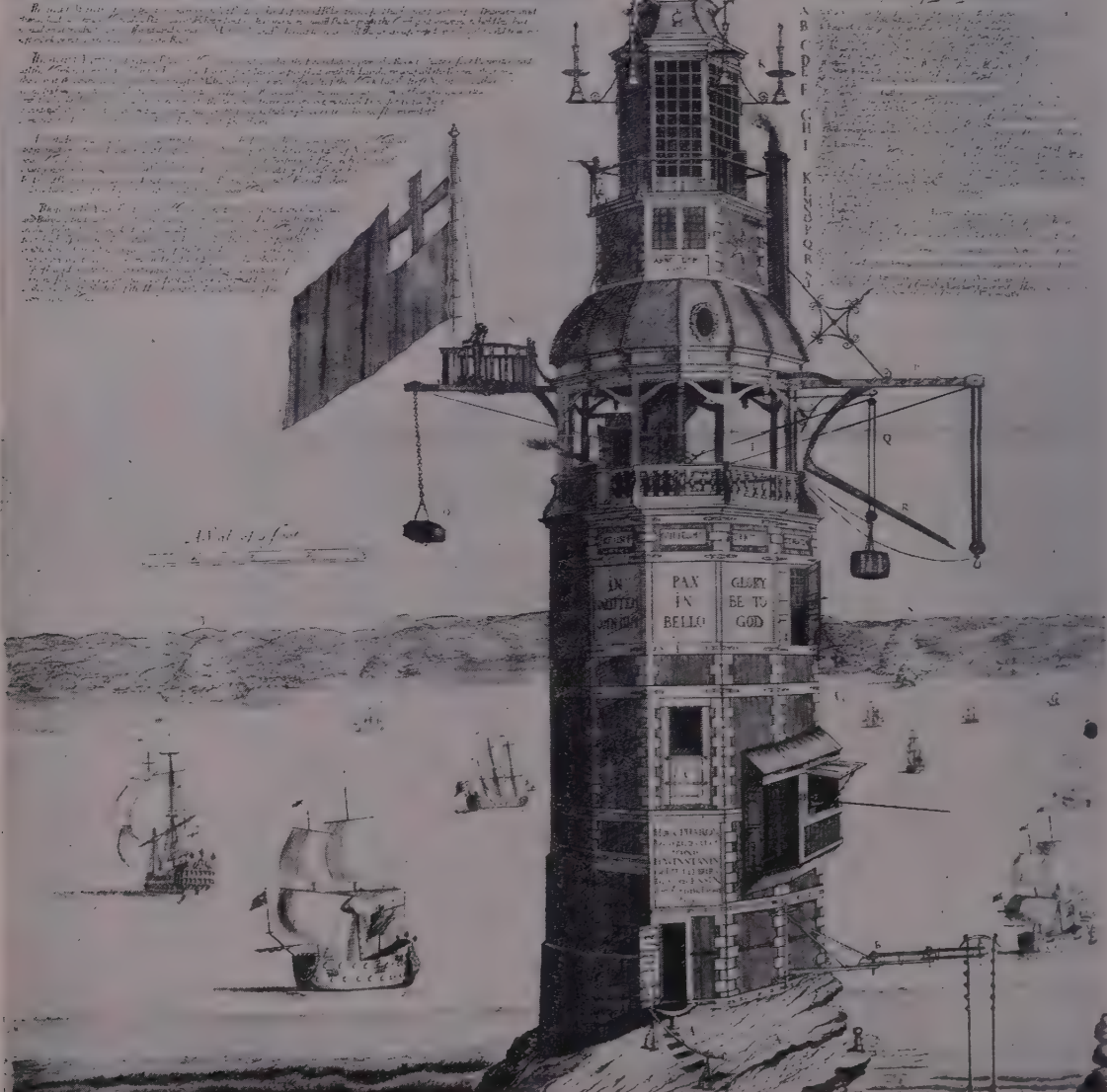
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A Description of the Light-house

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ploughland increased the fertility of chalky fields too far from the valley-farms to be otherwise manured; while the change from the open grazing of large flocks reduced the quantity of wool. Trade and movement being his first concern, rather than agriculture itself, he must therefore examine not only how Wiltshire supplies London with cheese, bacon and malt, but how the 'vast manufacture' of broadcloth established in Wiltshire and Somerset continues to find its raw material. He finds it in 'the influx of north-country wool' from Northamptonshire, Leicestershire and Lincolnshire, which are described when he comes to them as 'a vast magazine of wool for the rest of the nation' besides furnishing London with the finest mutton. Secondly, Kentish wool comes from London in

the fleece by the carriers to the western towns who take back the finished cloth. Thirdly there is an irregular supply of Irish wool via Bristol or Minehead; and finally the import of fine Spanish wool, proudly traced to the breed of Cotswold sheep sent to Spain by Richard I.

These are matters, as the author justly claims, not ordinarily treated of in contemporary itineraries. The value of the *Tour*, as indeed of Defoe's writings in general, has been increasingly recognized by recent historians. But it is not a text-book. It is a popular work, a great success in its own generation and highly readable in ours. The information is charmingly and graphically conveyed, with a continual sense of movement, of incident, and of fresh and actual experience. We watch great droves of Norfolk turkeys

The Lizard. 'This part of the isle of Britain seems to be one solid rock, as if it was formed by nature to resist the otherwise irresistible power of the ocean . . . How high the waves come rolling forward, storming on the neck of one another, particularly when the wind blows off sea.'

Fox Photos





Mustograph Agency

Near Hard Knott Pass, Cumberland, to Defoe 'a country eminent only for being the wildest, most barren and frightful of any that I have passed over in England, or even in Wales itself.'

waddling all the way to London to market; of geese also, sometimes two thousand at a time, the drives beginning when the end of the harvest in August supplies wayside stubble for the birds to feed on, and continuing till the end of October, 'when the roads begin to be too stiff and deep for their broad feet and short legs to march in'. Even fish could be conveyed alive in large butts which the waggoners replenished with fresh water at every night's halting-place—though in general the obstacles to the trade in fresh fish provided one of the arguments for better roads. We visit a Sussex gentleman's farm with some London butchers drawn by the fame of his home-bred bullocks, hear him answer 'No, he was resolv'd to have them to Smithfield himself, that he might say he had the four biggest bullocks in England at market', and find that when he got there he was 'play'd a little' and only got £25 a head for them. From the Lizard we watch an attack on an English convoy by three French

men-o'-war, which took two merchant-ships but at length, 'being sufficiently bang'd', drew off. We find that the county of Cheshire, 'however remote from London, is one of those which contributes most to its support' by virtue of its excellent cheese; while the ale gets steadily nearer to perfection the nearer we approach Yorkshire, 'as if the farther north the better the liquor'. We explore, in a vivid interview, the subterranean horrors of a Derbyshire lead-miner's existence. We attend the Penkridge horse-fair in Staffordshire, where the grooms from Yorkshire and Durham never leave their horses' side, 'feed them by weight and measure', and 'bring them out like pictures of horses, not a hair amiss in them'; and the great Sturbridge Fair, near Cambridge, with its whole streets of booths, warehouses, eating-houses, taverns and puppet-shows, so thronged from all over the country that hackney-coaches are brought from London to provide local transport, and even

wherries conveyed on waggons to ply up and down the Cam. This earns considerably more attention than Cambridge town and the University, and we find ourselves lingering at the Fair till the very end, when the farmers come in with plough and cart to recoup themselves with the trampled compost, while 'great quantities of heavy goods, and the hops among the rest, are sent from the fair to Lynn by water, and shipped from there for the Humber, to Hull, York, &c, and for Newcastle-upon-Tyne, and by Newcastle even to Scotland itself.'

The *Tour*, in fact, despite some curious proportions and patent digressions, remains a tour. It is Defoe's horse that is in movement, as well as the pack-horse on the down. Whether alone or with some unnamed companion (on the title-page the author himself is simply 'a gentleman'), Defoe weaves all his numerous journeys into the narrative. Carried over the Mersey from Wirral to Liverpool on the jolting shoulders of 'some honest Lancashire clown', riding into Bath by the Fosse Way in the evening, delighted by the cheapness of his inn at Shrews-

bury, annoyed at having to pay 2s. 6d. to cross a Lincolnshire bridge in a coach ('the only half-crown toll that is in Britain, at least that ever I met with'), he constantly dramatizes the problems and pleasures of travel. There are no heroics in his account of the crossing of the Humber from Barton Ferry to Hull 'in an open boat, in which we had about fifteen horses, and ten or twelve cows, mingled with about seventeen or eighteen passengers, call'd Christians; we were about four hours toss'd about on the Humber, before we could get into the harbour at Hull; whether I was sea-sick or not is not worth notice, but that we were all sick of the passage any one may suppose; and particularly I was so uneasy at it that I chose to go round by York, rather than return to Barton, at least for that time.' On Blackstone Edge, where even today motor traffic is unpleasantly stranded from time to time, Defoe and his companions rode up out of Lancashire into snow, wind and thunder. His 'poor spaniel dog . . . turn'd tail to it and cry'd', and his master was on the point of doing the same when 'one of our men called

By contrast the view from Box Hill, Surrey, known to Defoe as a child, was 'a plain and pleasant country, a rich, fertile soil, cultivated and enclosed to the utmost perfection of husbandry.'

Mustograph Agency



Tunbridge Wells, Kent, in 1719, one of many resorts where Defoe drank the waters and tasted 'company and diversion, the main business of this place; and those people who have nothing to do anywhere else seem to be the only people who have anything to do at Tunbridge.' He found the society 'a degree or two above' that at Epsom and Hampstead, and less given to destroying reputations, so that the liberty of making new acquaintances was added to good air and excellent food, including fish from the coast (a 20-lb turbot sold for three shillings), abundance of game and the delicate morsels of 'English ortolans' (wheatears from the South Downs)

British Museum

Mount Ephraim



out to us, and said he was upon the top of the hill, and could see over into Yorkshire, and that there was a plain way down the other side'. And thus, but only after more climbing and descending, the author approaches Halifax which he knew so well, and the 'noble scene of industry and application' in the West Riding towns which he describes in detail, since 'they who have pretended to give an account of Yorkshire, and have left this out, must betray an ignorance not to be accounted for or excused.'

It is this account in particular, supported by Defoe's general picture of thrusting and successful mercantile interests, which in G. D. H. Cole's expert view gives the lie to the notion that England before the Industrial Revolution was static, and that 'the capitalist class was a product of steam and power-driven machinery'. Defoe's outlook was always buoyant, and one lays down the last volume of the *Tour* slightly punch-drunk by a splendid piece of national advertising. The brakes on progress are there also. The author *might*, he confesses, have written a satire instead, showing 'how much the conduct of the people diminishes the reputation of the island, on many modern occasions', but prefers 'humbly to move reformation' where it seems needed, as in the case of the rotten boroughs to which he draws attention as he comes to them. As to the physical handicap of undeveloped communications, Defoe's very praise of the new turnpikes gives emphasis to his admission that 'the inland trade of England has been greatly obstructed by the exceeding badness of the roads'. What he looks forward to is simply that 'the roads in most parts of England will in a few years be fully repair'd, and restor'd to the same good condition (or perhaps a better than) they were in during the Roman government.'

The coastal traffic was a favourite subject with Defoe. He never carried out his project of circumnavigating the whole island, but there are many closely observed accounts of this commerce in the *Tour*, and the description of the dangers of navigation in bad weather off the mouth of the Humber and past Winterton Ness



Mustograph Agency

At Wansford Bridge, Huntingdonshire, 'we see at the great inn the sign of a man floating on a cock of hay.' His story (like that of the original Dick Turpin) is one of the many that enliven the *Tour*

remind us that it was in these waters that Robinson Crusoe ran into his first storm. Inland water-traffic by river had to make good the deficiency of the road system, so that Lechlade on the Thames, which we think of as a quiet village, was 'a very populous large place'. A 'projector' throughout his life, he made a particular study of the possibility of uniting the Clyde and the Forth by a canal of about eighteen miles—which is less remarkable when we recall that in another of his works he had suggested a Panama Canal.

The volume on Scotland has not yet found a modern edition. It is of interest first because of its contemporary rarity as a literary enterprise (Dr Johnson's journey half a century later was hailed with astonishment); and secondly because of Defoe's special connection with Scotland. In contrast with the general ignorance of his countrymen about their northern neighbour, he had visited Scotland at least six times, and for extended periods. He had published several books in prose and verse dealing with Scottish affairs, and for a time issued a special edition of his *Review* from Edinburgh. He had Scottish friends in different walks of life, he brought his brother-in-law to Leith to build ships and he

educated his son at Edinburgh University. But above all, both as a secret political agent for Queen Anne's ministry and in more direct ways, he had played an active part in securing the Union. The moral of the Scottish portion of the *Tour* is that the Union must be given justification and reality by encouraging economic development. 'I shall endeavour to show what Scotland really is, and what it might be if those engagements were fulfilled which were promised to them before the Union.' In the meantime, ignorant disparagement of the Scots and their country must be refuted. If the picture of Scottish prosperity, actual and potential, seems at times overdrawn (abundance of natural products, precious metals, pearl-fisheries in the Isle of Skye and elsewhere, wool and linen manufactures and the best bread in Europe), it is for this reason, and in keeping with the optimism of the whole work. Deforestation should be arrested, agricultural methods improved, the harbours of the decaying Fife coast restored, the migrating Scots tempted back to their own land. All this was written twenty years before Culloden, by an anti-Jacobite who had travelled in the Highlands, attended by Highlanders, shooting for the pot, camping at night, and moving 'very easily . . . over all the mountains and wastes without troubling . . . with houses or lodgings.'

One dwells naturally on the peculiar distinctions of Defoe's tour, but it contains also the ingredients expected of such a book. 'History is none of my business,' he remarks often enough. A digression on General Tilly of the Thirty Years' War while visiting Marston Moor, or an interpolated account of the siege of Colchester in the Civil War, was very much his business. What he apologizes for, and as continually inserts, is ancient history and the description of antiquities, usually adapted with acknowledgement from Camden and other authorities, sometimes the result of enquiries on the spot.

He can give due admiration to cathedrals (with specific praise of the Gothic at Lichfield), despite his passion for new building. Among the stately homes of the early Georgian period he often shows a characteristic preference for those exhibiting the wealth and taste of the new mercantile recruits to the aristocracy; and of Blenheim Palace he observes with prescience that it is 'a national building', too large for one man to maintain. The 'Wonders of the Peak' celebrated by Cotton, including Chatsworth as well as the cliffs and caves, are treated with the irony of one who has examined and assessed them all. Spa-resorts and medicinal springs, both large and small, get special attention, for Defoe had sampled most of them since he was first taken to Bath as a young boy. The assem-

The 'neat and agreeable town of Culross', on the Firth of Forth, remains as Defoe saw it. Notice the outside staircase, a Scots custom he found reproduced in the towns and villages of Northumberland

British Travel and Holidays Association





Before the fame of Princes Street, Defoe described Edinburgh's Auld Toon which he knew so well, calling its main street, now 'the Royal Mile', 'the most spacious and best inhabited in Europe'

blies at the more fashionable resorts delight him up to a point, and he has a famous description of the diversions of the quality at Epsom—he was a keen follower of racing and breeding. The point is reached when dissipation calls for the censure of a writer with a Puritan upbringing but an ambition for high life.

Reactions to natural beauty come only in rare touches from Defoe, but there is one remarkable feature of the *Tour* which might perhaps be partly traced to the influence of his old schoolmaster, Dr Morton, who published some speculations on the migration of birds. Defoe can spare any amount of time for the study of wild birds—the choughs in the Cornish cliffs, the movements of solan geese over Scotland, the wild-fowl of Norfolk, with a description of the use of decoys far more elaborate than his reference to the draining of the Fens. He praises the landscape of Wales as superior to what he had seen in Savoy, but it is the valleys that please him. To find mountains

'frightful' and 'horrid' was of course characteristic of his pre-Romantic period, but to this he adds his own objection to stretches of country which, unless they had workable minerals, were 'of no use or advantage either to man or beast'. Even Bagshot Heath had the character of 'Arabia Deserta' for him. The view that Defoe can thoroughly enjoy is obtained, usually in a southern county, over a richly tilled countryside, dotted with handsome habitations, with 'a winding and beautiful stream, gliding gently through the midst of it, and enriching by its navigation, both the land and people on every side'. Better still if such a view can take in a distant prospect of the incomparable capital, whose busy markets he describes in valuable detail, whose crowded wharves and dockyards meant wealth, power and adventure, whose satellite villages—Marylebone, Islington, Battersea and a score of others—were becoming elegant suburbs, all within sight of the crowning cupola of the new St Paul's.

A New Land-Use Survey of Britain

by ALICE COLEMAN

DURING the summer of 1960 nearly a thousand volunteer surveyors have been devoting their leisure time to the making of a new inventory of the face of Britain. In all, they undertook to map three-quarters of England and Wales in a new Land-Use Survey; much of this has already been completed. A plan for finishing the remainder is now being launched and additional volunteers are needed.

Land-Use Survey has sometimes been described as a modern 'Domesday', and perhaps this is an apt description if we exclude the more sinister motive of taxation which lay behind the original Domesday. Today's motive is mainly intellectual curiosity—a desire to know and understand the face of our country and especially its regional contrasts.

There has been only one complete Land-Use Survey of Britain, the splendid pioneer effort directed by Professor L. Dudley Stamp in the ten years before the war. At that time the whole concept of Land-Use Survey was essentially unknown and his achievement became the prototype of similar surveys in many countries of the world. A Land-Use Survey, unlike a topographic survey, does not remain permanently valid. There are two main reasons for this: use of the land changes and there is also a change in the demands made by the users of the map.

At present it is somewhat difficult to obtain the facts. Though sources of information exist they must be worked through piecemeal. Town maps of the planning authorities vary in size and shape and do not cover all the built-up areas. Ministry of Agriculture statistics do not reveal immediate area distributions and the data must be supplemented by recourse to modern Ordnance Survey maps. These sources can be very expensive and involve a great deal of work in order to obtain the picture which a new land-use map would present in a simple, compact and immediate form.

The pre-war Survey recorded a woeful picture of Britain in the nadir of the depression when agriculture was at a very low ebb. Thousands of

acres had tumbled down to grass and the farming world was in the throes of great hardship. The map produced at that time was thus a gross understatement of the country's agricultural potential.

Today the picture is very different. Technical progress and opportunities for capitalization have raised the status of agriculture, which now plays a most important part in our economy. In 1958 Mr A. N. Duckham wrote an article on the 'Current Agricultural Revolution' in which he used and italicized the word 'new' over thirty times: each use referred to a modern development and improvement. Indeed, our current agricultural output is over 60 per cent higher than before the war.

One example of a technical advance in agriculture which has helped to alter the face of Britain is the improved control of water resources. Polythene piping makes it possible to water cattle on dry chalk downs where cattle have not been seen before. Spray irrigation can increase potato yields up to eight-fold in a dry year. The finer control of water levels in drainage dykes has made it possible to grow arable crops on traditionally green marsh or Washland. The deeper dredging of certain large drains in the Fens has made it feasible to dispose of the protective banks. Bulldozed flush with the surrounding land, these banks have been converted into strips as much as thirty feet wide which have been added to the productive area of the adjacent fields.

Another factor which causes change in the farming world is migration. A Lincolnshire farmer moves to Kent and tulips begin to oust sheep from a corner of Romney Marsh, whereas back in Lincolnshire another migrant farmer observes that he appears to be setting a local fashion by changing over to vegetable growing.

But one fifth of the acreage of this country is non-agricultural land and this, too, has undergone conspicuous changes. Boundaries have been blotted out by new airfields, valleys are drowned beneath reservoirs and the face of the

countryside is encrusted by the urban spread of new towns, suburbs and industrial estates. Mines and gravel workings have created derelict wastes, while old tips have been levelled for building and rough moorland reclaimed by afforestation. Land held for military purposes amounts to nearly three times that of the pre-war period, and between 5000 and 10,000 acres may be taken for sports grounds every year.

These changes are manifold but fairly normal. Add to them the dislocations of the transition from slump to prosperity, and from peace via war to peace. Clearly, the pre-war land-use map is seriously out of date: indeed, much of its interest now lies in this very fact and it is often described as an historical document. Hence the need for a second national Land-Use Survey to record the modern picture. It is a need that is widely recognized and already much sporadic mapping has been done. Enterprising teachers and students have mapped local areas for their own purposes. If all the local surveys undertaken by individuals, schools and colleges during the last ten years could be amassed together, there is little doubt that they would amount to many thousands of square miles. Unfortunately, they remain scattered and not available for general consultation, but if the work of these scattered enthusiasts could be coordinated in a single national scheme, it would not be difficult to produce a complete land-use revision of England and Wales within a very few years.

A lead has been given by the Isle of Thanet Geographical Association. In 1958-59, the

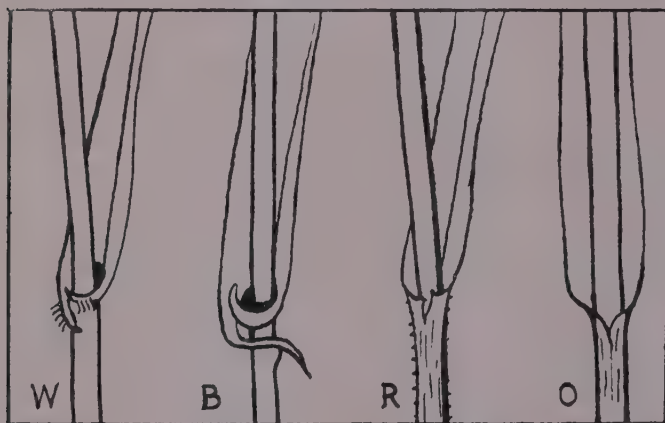
members of this Association mapped an area of 500 square miles in East Kent and subsequently decided, with the help and encouragement of Professor Stamp, to extend the Survey to the whole of England and Wales. The appeal for volunteers was launched in January 1960 and announcements were made at the Annual Conferences of the Geographical Association and the Institute of British Geographers. The response to the appeal was magnificent and within a week enough volunteers had come forward to cover nearly a third of the country.

It is now hoped that all the mapping will be completed by the end of 1961 and volunteers are invited for next season. There are a few 'blank' areas left in nearly every county and the biggest gaps are naturally in those districts where population is sparsest.

One of the first tasks in coordinating a national survey was to produce a Land-Use Handbook giving a precise account of the aims, methods and demands of the new Survey, so that potential helpers can see exactly what is required of them. They are, in fact, being asked to carry out field work and also to provide the field maps and donate them to the national collection when completed. They are asked to map an area corresponding to one, or preferably two, two-and-a-half-inch Ordnance Survey maps. Most of the sheets have been undertaken as 'doubles' which will eventually be printed together as one map. The surveyor may either map the area personally or he may organize a team of helpers.

Field mapping is done on the six-inch Ordnance Survey sheets, in considerable detail. Crops are recorded individually and factories are noted according to the type of product. The gain to the surveyor is an interesting field training and an intimate knowledge of his own district. To assist the surveyors the Handbook includes diagnostic notes of the various categories to be mapped, including some diagrams on crop recognition. Town-bred surveyors in particular need to be told how to distinguish barley from wheat before it comes into ear, kale from sugar beet or salt marsh from freshwater marsh. Thus they acquire more country lore and a better appreciation of the countryside.

Hints for town-dwelling surveyors from the Land-Use Survey Handbook: identification of cereals by means of the auricle. Barley has long, curly, overlapping auricles, those of wheat are shorter, pointed and hairy, those of rye still smaller with fewer hairs. Oats have none





Aerocolour

Aerocolour

The town of Old Sarum became deserted in the late Middle Ages as a new city grew up round Salisbury's Gothic cathedral. Woods, grassland and agriculture have taken possession of the old town site, a reversal of the trends in land use that are apparent today



of films

Aerocolour

The factories, wide roads and terraced houses of Hemel Hempstead New Town edge up to ploughed fields and snuggle against woodland. The Survey makes these big changes in land use dramatically clear



Aerocolour

Ac

Land may be put to transitory use, especially when it lies in the path of building development. Here, fields of little agricultural value on Canvey Island are occupied by huts, tents and caravans

In preparing a new scheme many decisions had to be taken. The first was scale. On the old one-inch survey enough significant detail could be indicated by distinguishing seven categories. Today sixty different categories require the use of two-and-a-half-inch maps.

A second decision involved the reconciliation of two opposed aims in the new map. The incorporation of sixty categories means that it will be very unlike its predecessor, yet to facilitate a direct comparison of changes between the two Surveys certain features in common must be retained. This problem is solved by the use of a colour system which can be read at two different levels of intensity. The first level consists of major groups of categories each represented by a distinctive colour easily discerned at first inspection. These correspond in the main to the seven-colour categories of the old Survey: brown

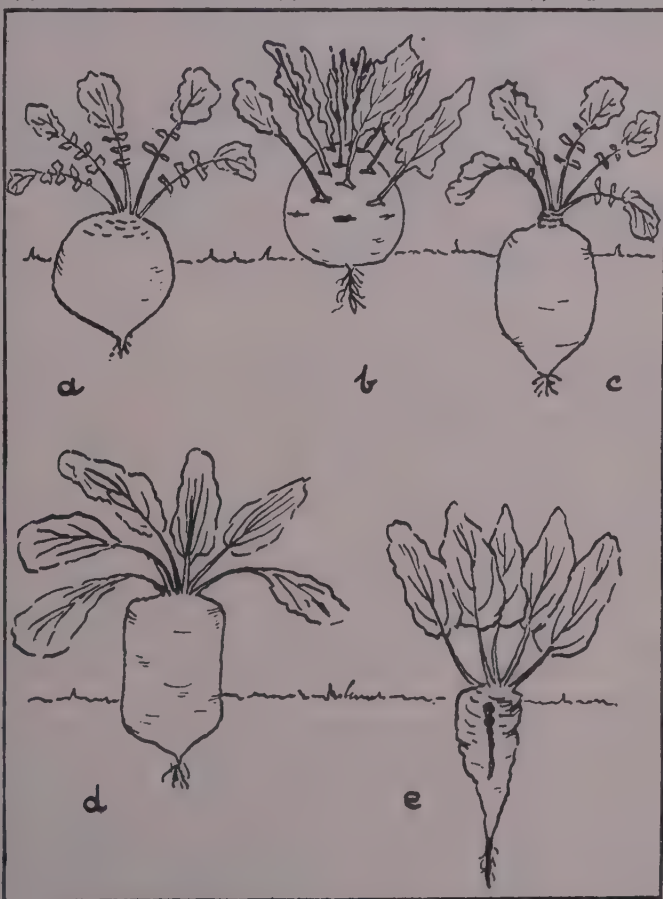
for arable land, light green for grassland, dark green for woodland, yellow for moorland, heath and rough land, purple for market gardening and orchards, red for industry and blue for water features. In addition, grey is used for settlement, orange for transport, lime green for open spaces, a black stipple for derelict land and white for unvegetated land. At the second level of intensity are the sub-divisions of each group which are represented by variations of tone within the main colour or by other subdued cartographic devices. The sub-divisions are clearly distinguishable from each other as soon as the map is subjected to a moderate scrutiny but they do not interfere with the unity of the main colour groups.

Mention must first be made of non-rural land use. In built-up districts a great many forms of land use are crowded into a small area as compared with rural localities and there is relatively little space to represent them on the map. It has been decided therefore to associate together as a grey-coloured background all those forms of residential and commercial use which are common to all or most settlements.

This group is composed of urban facilities which may normally be expected in any settlement, varying more according to the settlement's size than to any other factor. It includes housing, shops, hospitals, churches, business and administrative offices, places of entertainment, and so on. A transparent grey has been selected so that the Ordnance Survey under-printing in grey, black and white may be discerned through it and thus variations in urban texture and layout may be interpreted within the confines of one colour.

The neutral nature of grey throws into prominence the brighter colours used for other urban features which are more individual to particular settlements either in type or extent. For example, industry is shown in red. The maps of Enfield and Thanet indicate the contrast between the large red blotches of an important industrial estate and the weak red spatter of small indus-

For the land-use surveyor who just knows a tulip from an aspidistra:
(a) Turnip; (b) Kohl rabi; (c) Swede; (d) Mangold; (e) Sugar beet



tries tucked away inside a town. Maps of Dover and Folkestone also reveal contrasts not normally thought of between these two channel ports. Dover in its deep valley shows a compressed texture of close hillside housing with small backyards, and a compensatory circumference of allotments forming a purple halo around the grey. In Folkestone, however, the texture is much more open. Private gardens are spacious and allotments rare. Here there is an alternation of grey background and lime-green parks and playing fields.

A knowledge of types of industry is essential for urban analysis. The new scheme separates public utilities and extractive industry with tips, to be shown by red lines of stipple. Manufacturing industry is indicated by red wash and further differentiated according to types of product by means of numbers which are the same as those used in the 1951 census. These figures on the industrial areas of the map give a wealth of information concerning the type, the specialization or variety, and the concentration or diffuseness of manufacturing in a given area.

The average geographer will admit that he has only a very sketchy knowledge of industrial distribution outside the main national concentrations. For him a whole series of interesting surprises is in store as one by one the new maps make their appearance. A young geography master was invited to name the most frequent type of manufacture in the Lea Valley at Edmonton, an area with which he was acquainted. He struck the right answer at the sixth attempt but only by accident: 'Well, it can't be wood and cork!'

Unenclosed land which receives little or no human tending poses a very interesting problem, as it ranges from totally unused areas to those which experience intermittent or multiple usage, such as occasional grazing, week-end invasion by hikers or campers, glider 'meets', radar testing, water catchment for an adjacent reservoir, and grouse shooting. Many or all of these uses can coexist or overlap. Most of this land is characterized by semi-natural vegetation kept in an arrested state of development by extensive grazing, by burning, or by natural conditions which discourage the emergence of climax woodland. In these areas of moor, heath or rough land, surveyors are asked to map the main vegetation types, and the mapping of their boundaries is expected to reveal very interesting distribution patterns. We do not know just

where heather or bracken or cotton grass predominates, for instance, and this will be established. So will such things as wet or dry bogs, the former being dangerous to man and beast. Along the coast and in river valleys, salt marsh, freshwater marsh and dunes fixed with marram or other grasses are also mapped separately.

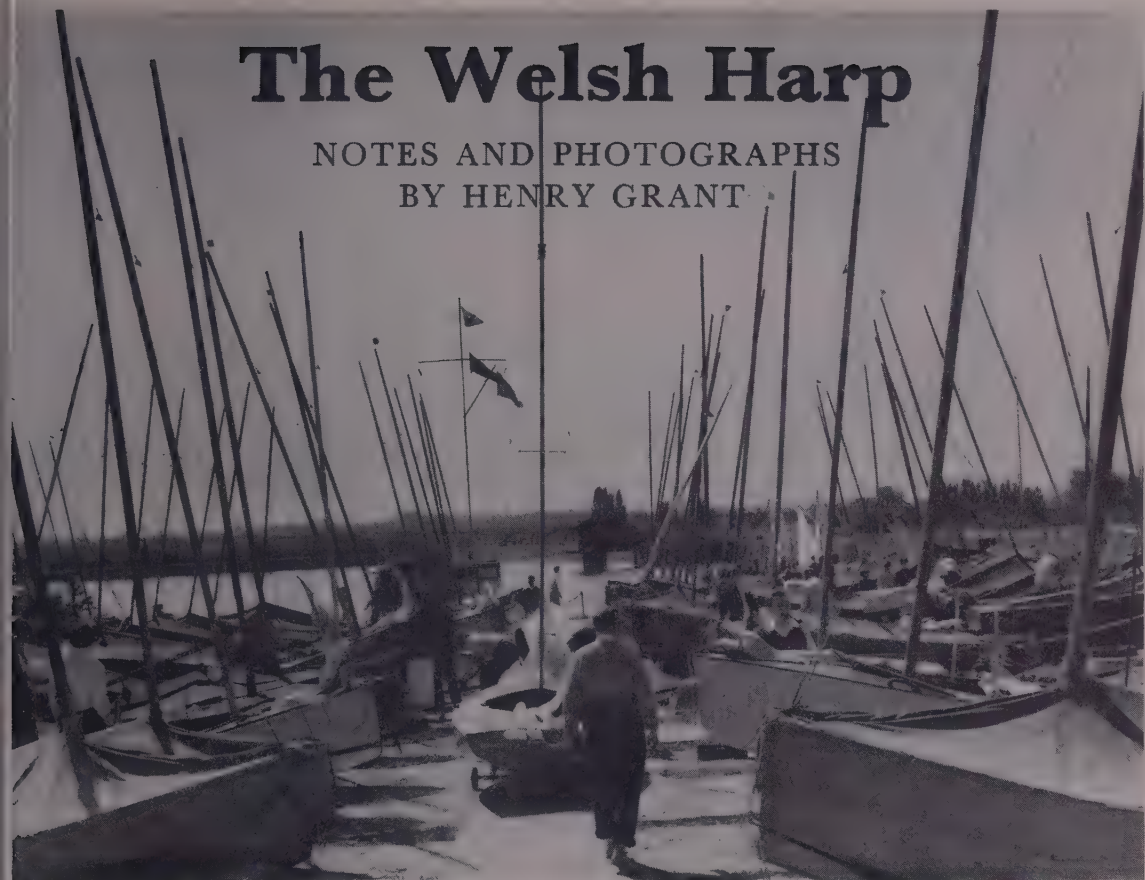
Even in towns, the yellow category may be present. Here it represents rough land—usually farmland which has degenerated while awaiting the builder. Rough land which is produced by dereliction and abandonment of land formerly devoted to settlement, industry or transport is placed in a different category shown by a black stipple. Often it is land with a tendency to persistent uselessness unless the public conscience is stirred to active reclamation. Derelict land of this sort covers vast areas in Staffordshire, for example, and it would be interesting to record its present distribution as a stage in the long-term process of its rehabilitation.

Despite all these non-agricultural features in the new map, it is still in the agricultural 80 per cent of the map area that the greatest degree of detail can be plotted. Grass remains a single category, and therefore in many regions the map will be predominantly green, especially where the beef subsidy affects farming, as in parts of Leicestershire. Fallow land, which is rare, and often connected with rehabilitation of land before a change of use, is shown as a brown stipple. Cereals are indicated by a brown wash, and root crops, which, except for mangolds, have become relatively rare in the south-east, by brown vertical stripes. Green fodders such as kale are shown by horizontal brown stripes, and industrial crops (e.g. sugar-beet) by brown cross-hatching. The ley legumes, such as clover or lucerne, are frequently sown together with grasses and for this reason are represented on the map by a mixture of brown and green. Field crops for direct human consumption, such as potatoes, carrots and brassicas, are coloured purple, but distinguished from others in the purple group such as mixed market gardening, nurseries, allotments or soft fruit.

The large amount of detail to be incorporated into these new maps will necessitate nine colour printings. Two pilot maps are already in hand and are expected to appear within a few months. But much remains to be done and any offers to help in the Survey, addressed to me at King's College, London, W.C.2, will be greatly appreciated.

The Welsh Harp

NOTES AND PHOTOGRAPHS
BY HENRY GRANT



The Brent is the river of London's north-west suburbs, growing out of two rivulets, Dollis Brook and Mutton Brook, which drain Totteridge and Finchley. Below Hendon is a basin of low-lying ground: here the Silk Stream flows down into the Brent from Edgware, and together they broaden out into a mantis-shaped lake, familiarly known as the Welsh Harp, and officially as Brent Reservoir.

For long it has been one of London's playgrounds, all the more precious since the North Circular Road brought industry to its southern shore and the Wembley Exhibition of 1924-25 pointed out the vistas of Kingsbury's sloping fields to the speculative builder.

There are still trees in the adjoining park and playing fields, but it is difficult to ignore the glittering factories, the rose-roofed villas, the wireless masts on Dollis Hill.

The waters of the Welsh Harp are a paradise for yachtsmen. Eight sailing clubs have their headquarters here, and constitute the Welsh Harp

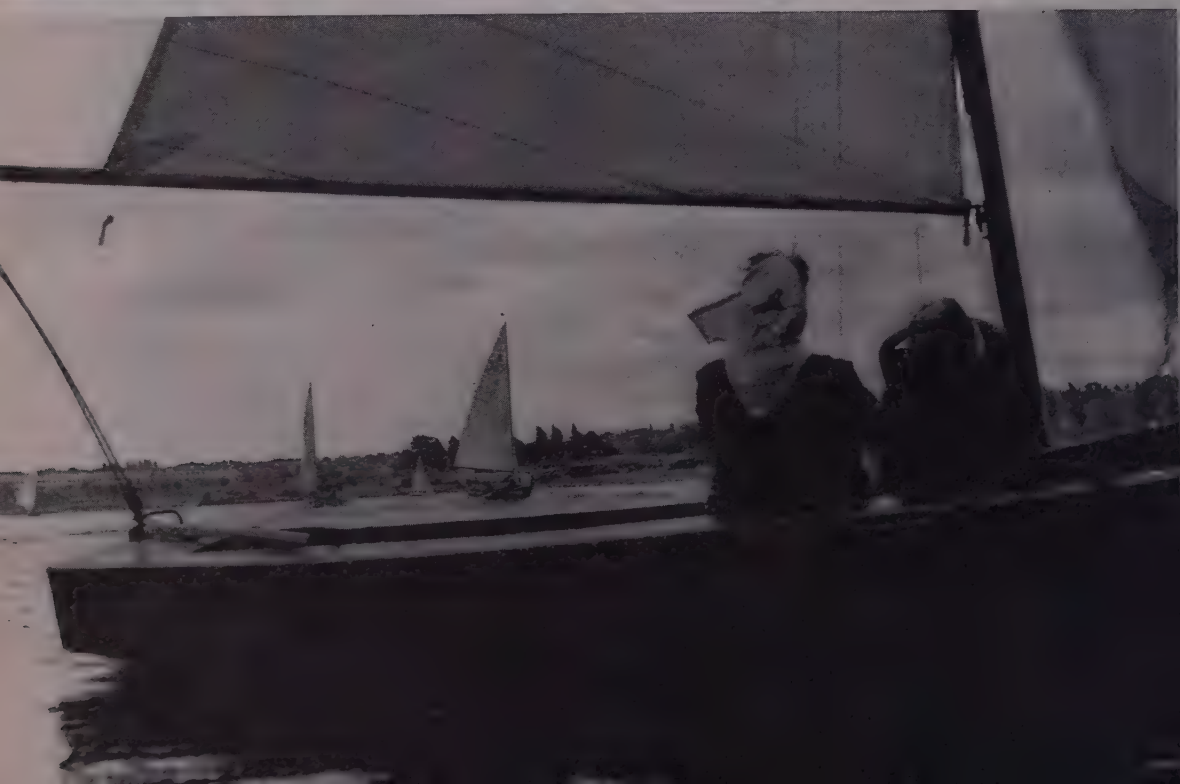
Sailing Association; among them the University of London Sailing Club, the Wembley Sailing Club, the Youth Organizations Committee. Sailing is everything; rowing is allowed on very special occasions only; but paddling, wading and swimming are 'expressly forbidden' by the British Transport Commission, who have inherited the ownership and the rules of the reservoir.

All who sail on the Welsh Harp, from learners to experts, are single-minded in their purpose: sailing fills their week-ends throughout the year, and their summer evenings. There are racing events on three evenings a week except in mid-winter, and special races for the children of club members.

While motor traffic grinds wearily up the Edgware Road or round the North Circular, the white sails bob in the fresh wind. And if a sudden gust capsizes a boat, no-one worries; for the Sea Cadets, who are given special facilities on the Welsh Harp, will soon be on the spot to give assistance.



They sail with 'Fireflies', 'G.P.14s' and 'Merlin Rockets'. Some of the boats are owned collectively by one or other of the Welsh Harp sailing clubs; some belong to members or to small groups. There are 200 boats—out sailing, tied up to the pontoon, or pulled up into the dinghy park





Sea Cadets and Sea Scouts are regularly out on the Welsh Harp, where they learn seamanship, pulling and sailing. They run rescue services too for the sailing clubs





Sailing is pursued as ardently in winter as in summer; each season brings its special demands on the sailor's skill. When the winter afternoon draws to an end, there is just the short ride home on a scooter to Harrow or Willesden; then tea and crumpets by the fire



All photographs from the Cambridge Congo Expedition 1959

FIVE NATURALISTS IN

by DAVID HAPPOLD

Leader of the Cambridge Congo Expedition 1959

'CAN'T we have two eggs each?' Peter moaned.

'No! It's too expensive,' said Michael.

'But you spend enough money on your animals!' Peter replied.

Mark finally settled the argument: 'But that's what we came here for!'

Yes, that is why we were there; five Cambridge undergraduates in the Congo for the summer vacation last year. Undoubtedly 1959 was a red-letter year for undergraduate expeditions. From Cambridge they covered the globe from Afghanistan to Colombia and from Spitsbergen to the Congo. Our expedition was in fact only just in the Congo. Our base camp was situated on the western side of Lake Kivu between it and the mountains which form part of the Rift Valley escarpment. From our camp we could

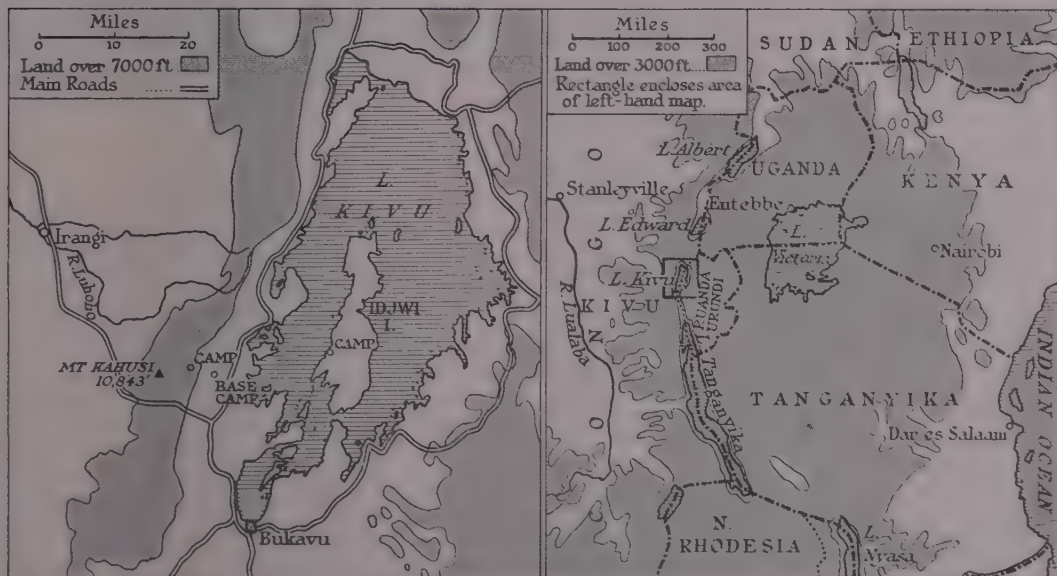
look across the lake to Ruanda Urundi and up to the volcanoes on the Congo-Uganda border.

We had flown to Uganda, picked up our two tons of equipment, and motored across the undulating country. Two days' driving and we reached Kigezi, the hilly south-west district of Uganda. Hills, lakes, papyrus swamps, small neat farms and white church spires are crowded together in this beautiful land. We left Uganda late one evening and drove our first 200 miles into the Congo in darkness.

To begin with, we had to set up our living quarters for the next twelve weeks. Tents and tarpaulins littered the ground together with crates of food, collecting equipment and stores. Gradually some kind of order emerged out of the chaos, while large numbers of the local



THE EASTERN CONGO



A. J. Thornton



(Above) Three of the naturalists push through dense scrub on a botanical collecting expedition. The last man is carrying the plant press. On another journey (left) a plant is arranged between sheets of drying-paper. As each plant was collected it was immediately numbered and notes were written about it on the spot. (Opposite) Negotiating with care the stick-and-liana bridge across the Luhoho River at Irangi. The dappled light was only present for about an hour each day; at other times the high forest trees obscured the sunlight

Bashi tribesmen and their women and children crowded round to watch, gesticulating and chattering. Their continual presence had compensations since we were able to buy their local produce: chickens, bananas and vegetables.

Our base camp was in a superb position in the grounds of the Institut pour la Recherche Scientifique en Afrique Centrale (IRSAC), with its extensive laboratories set in the midst of savanna, banana plantations and smallholdings of the Bashi tribe. But within a few miles of our camp all vestiges of civilization disappeared into forest, elephants and mountains.

We soon got going with our programme: Michael Swift, Mark Coode and Roger Polhill were the botanists, and Peter Curtis and myself the zoologists. Every day we set out, either down towards the lake or up to the forest line at 7000 feet along the rough road which wandered up through the villages and plantations. The local inhabitants were very intrigued, flocking to the roadside to watch us pass, with our long hair, short shorts and assorted headgear.

Our camp too was a source of interest to the Africans. Since it was only a few yards from the road it was a convenient place for them to stop, talk and look. There were two green tents, a smaller brown one, and two shelters of tarpaulins rigged up over a rude framework of poles. On sunny days we would cover the ground with rows of wet papers from our plant presses, as we were continually using up our stock of dry ones. The Africans were quick to discover that we bought animals but slow to realize what we did not buy. They brought anything ranging from frogs and lizards to furry rodent moles and a most endearing though vicious weasel called *Poecilogale*. Chameleons and mantises arrived on the far end of long sticks; snakes were firmly nipped in split bamboos.

Several times it was necessary for us to go to Bukavu, the main town of Kivu Province, some thirty miles to the south. Bukavu is situated on a peninsula jutting out into the lake. Overlooking and dominating the town is the cathedral perched high on a hill, its snow-white walls and green roof a prominent landmark for miles around. The harbour nestles in a small bay below the main street; from here steamers run to all the ports and to Idjwi, the largest island in Lake Kivu.

Many streams run from the mountains down towards the lake. Their banks are thick with vegetation, and the waters are icy cold. In one



place these streams fan out into a swamp forest of dense green foliage where the profuse tangle of branches and creepers and the soft muddy soil make difficult going. Strangling figs, elephant grass and flies are in abundance. The forest proper begins about 7000 feet. Because this is montane forest the highest parts of the hills are not covered by trees, but by tall bracken and occasional shrubs. However, the elephants have made numerous paths zig-zagging about in all directions through this dense scrub. We never met any of the elephants, although signs of their whereabouts were very obvious and strange noises in the bush indicated (so we thought) their presence. On the steep lower slopes, particularly down towards the streams, the forest trees grow to great heights often festooned with lianas and covered with epiphytes.

While collecting in this area we camped with only poncho capes, leaving our large tents at base camp. We missed Aluis, our African help, who did not come with us; our attempts at cooking rice showed how much we depended on

him. We soon collected so many plants that we had to return to base for several days so that we could press and dry them. In the comparative luxury of base camp it was possible to work on after dark, that is after six in the evening. It was a common sight to see the five of us clustered round our camp table made from tea chests. The two pressure lamps attracted a great many insects, the most notorious of which were 'sausage flies'. These large unwieldy insects are in fact the winged males of a certain species of ant; they dive-bombed either the light, or us, or the book we were reading. Many other odd insects visited us during the evenings until we retired under our mosquito nets.

During the first few weeks of our wanderings around camp we were intrigued by melodious noises drifting up from some of the native plantations. We later discovered that they were caused by an ingenious instrument called a *likemba*. The simplest of these is a square hollow piece of wood with ten tines of metal attached securely to one side. Larger versions have up to

Cutting down an eighty-foot forest tree at Irangi, in order to collect the plants and animals at the top. The wood was very hard, and the thick wine-coloured sap sprayed out with each cut



twenty-one tines attached to the board, which is then bound to a metal cooking pot or to half a gourd which has become useless for water carrying. The gourd or cooking pot is often decorated with odd bits of metal or beer-bottle tops, and can be shaken up and down like a tambourine. The Bashi and the pygmies who live in the forest have very deft fingers and can play these instruments quickly and accurately. Chaparali, our pygmy guide, was very good at it and we made some recordings of his playing and singing.

Our original plan after exploring the country near our base camp was to move higher up the mountain range and westwards over the other side towards the vast forests that cover the entire Congo basin. But before this we split up into two parties. Michael, Mark and Peter, together with Chaparali and some of the other pygmies, trekked up into the mountains and, crossing the ridge between two peaks, investigated some of the higher parts of the forest. Meanwhile Roger and I crossed the twelve miles of water to Idjwi Island.

On our return we began packing for a fortnight's stay at Irangi. This small village is reached by driving over the mountain escarpment of the Rift Valley, and then westwards down towards the Congo equatorial forests. There is a small IRSAC sub-station here beside the Luhoho River, which rises in the mountains and runs into the River Congo and thence into the Atlantic. Our tents were pitched on the river bank, the muddy-coloured water flowing calmly a few feet from the camp. We were surrounded by tall trees, and on the opposite side of the river the dense green entwining foliage hung down into the water. In the evenings in particular we were able to watch the monkeys playing in the branches or jumping from one tree to another. To begin with it seemed hot and humid here, but within a few days the oppressive atmosphere disappeared as we busied ourselves in the forest. Apart from the chattering of the monkeys, or a few shrill bird cries, the forest was quiet and a little eerie. The tall trees soared upwards like cathedral pillars branching into a dense canopy a hundred feet above our



A consort of *likembas*, the local musical instrument. The small one on the left is for a child. The *likembas* are held with both hands under the board, while the thumbs strike the metal tines on the top

heads. Brilliant butterflies, their colours contrasting with the sombre greens of the forest, flittered in the shafts of sunlight which pierced the gloom. In the deep shade near the ground we found a few small flowers—begonias, balsams and gingers.

On most days we crossed the Luhoho by one of the native stick-and-liana bridges. These remarkable Heath Robinson contraptions, although crudely made, certainly served their purpose. To reach the one we used most, we had to clamber along a tree which had partly fallen into the river. The sticks of the bridge were lashed together with lianas and were suspended by more lianas tied to overhanging branches. To make it a bit more difficult to cross, the bridge sloped alarmingly into the river in one direction and in places many of the sticks were missing. Nevertheless, it could support three of us at a time. In the forest there was little undergrowth, but it was easier to follow paths made by the local inhabitants. These people lived by fishing and hunting; they set many small well-camouflaged traps on the game trails—as Roger found out for himself one day. He was returning to camp during the afternoon after a collecting trip, and as usual was following one of the small paths. Suddenly he stepped unknowingly into a noose a few inches from the ground, and found himself being hauled at great speed into the



The view from the summit of Mount Kahusi on a fine evening looking northwards up the range of mountains. The foreground is thick with grasses, and with other Afro-Alpine plants and the darker coloured heathers. The mountains behind are covered with bamboo and forest

surrounding bushes! Luckily he was uninjured, but we all took much greater care in future.

While we were at Irangi we decided to cut down a forest tree so that we could collect all the epiphytes high up in the canopy, and any animals that might be living up there as well. It was difficult to find one that was suitable, as we had to make sure it would fall to the ground without crashing into other trees on the way, but we eventually chose one by the winding path leading down to the bridge. Little did we realize what a job it was going to be. The base was nearly three feet in diameter and the heartwood was as hard as nails. Within the first hour the handle of the axe broke and it was another two hours before the tree started to sway. We were helped by a local African with his axe, an incredibly efficient implement looking more like an adze. At last, after much sweat, the tree began to fall; a resounding crash of splintering wood shattered the quiet: small trees were broken clean in two, other branches were ripped off and everything around was flattened. The great tree sprawled on the forest floor as we measured, mapped and collected the animals and plants from the topmost branches. It took one and a half days to do this, and since the tree had unfortunately fallen across the path we were soon joined by interested natives. They could not understand why we had felled such a big tree just to collect the plants from it. Later on, an elderly African who obviously prided himself as the village spokesman pointed out that the villagers could no longer use the path. Why, he wanted to know, hadn't we obtained his permission before cutting the tree down?

'But this tree doesn't belong to you,' I pointed out.

'Even so, you should have obtained my permission, and you had no right to cut it down on the path,' he replied.

The futile argument dragged on. 'But look at all this firewood we've cut for you! You needn't cut any more for months,' I said at last; but he wandered off bemoaning our ignorance and stupidity.

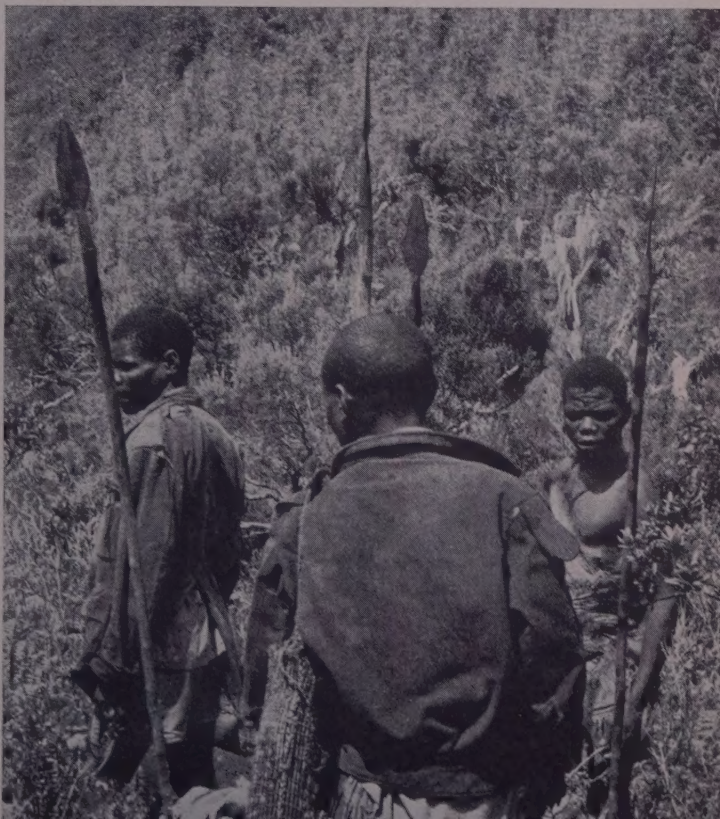
Soon we had to return to base camp. The long-wheel-base Land-

Rover was filled to capacity with eight humans, two dogs, two forest rats, one rhinoceros viper, one pangolin (a scaly ant-eater) and a mass of stores and equipment. There had been a lot of rain in the mountains during this last fortnight and the road was a quagmire, winding up and down and round the contours of the hills, over small streams, through forest and bamboo, sun and mist. After 120 miles, and a climb of nearly 6000 feet, we reached home ground again.

One of the ambitions of the expedition was to climb Mount Kahusi. With the exception of some of the volcanoes, this at 10,843 feet is the highest peak in the Congo, and since it was only eight miles from our base camp we were determined to reach the summit. We wanted to spend several days on the peak, and this meant taking up more equipment than we could manage ourselves. At one time it seemed as if our efforts would fail because of the difficulty of hiring porters. Finally we arranged for ten pygmies to guide and carry for us. We eventually found them after some delay, and, after distributing the loads, began the trek up the mountain.

These pygmies were dressed in battered

The pygmy porters during a halt among the tall bilberries half way up Kahusi. Their spears are stuck into the ground and they are about to settle down to a smoke with their bubble pipes and a meal of manioc



European clothing, and besides our loads they carried quite a number of their own possessions, although this was not apparent until we stopped for breaks, when bubble pipes appeared, a fire was lit and they started heating up beans or manioc. Nothing would induce them to hurry over their refreshments, so we just stood and waited and ate our chocolate.

For most of the way we followed a track, sometimes clear but sometimes non-existent. At first we climbed through a belt of bamboo forest; the leaves rustled high above us, dead stems leaned and creaked in a fantastic jumble and the soft deep grass was wet underfoot. After an hour we climbed out of this forest into one of shrubs and stunted trees. Waist-high bilberries were very common and their fruit supplied us with a welcome addition to our chocolate. All this time mists closed in around us; we could see nothing but the bulky shape of the person in front. Sometimes for very short periods the mists cleared to reveal a wonderful panorama of hills, forest and low cloud. So up, up and up, eventually into the giant heathers, their gnarled stems forming an archway through which we scrambled. It was raining by now, and as we neared the summit a high wind was developing. Suddenly the giant heathers disappeared, short grass took their place, and we realized we were on top.

Just below the summit, on the other side, is a small aluminium hut. We piled in out of the wind and rain. There were six hammock-beds round the sides, a small stove in the middle and, to our delight, a tap from the storage tank which drained the rainwater from the roof. Ten minutes after we arrived, the pygmies were cooking their beans, and we were drinking tea and staring out at the swirling mists. All the pygmies remained with us for the first night; eight of them returned home next morning, while Bindji and Bilindi stayed to collect heathers for us so that we could keep a permanent fire.

Five days were spent on the top of Kahusi, but we collected for only a part of this time. Our days were curtailed by the mists and rain; usually it was fine in the morning and evening, but impossible to go out in the afternoon. Even when it was fine, the cloud resting in the valleys sometimes surged up around us. Below the Afro-Alpine flora of the summit, giant heathers, groundsels, and lobelias like vast washing-up mops grew in profusion. Red-hot poker and

orchids splashed the carpets of little white everlasting flowers with colour, and large tussocks of springy wet grass covered the upper slopes dotted with boulders and rock faces.

Pic Kahusi, the second highest mountain, is separated from Kahusi itself by a steep gully with almost sheer rocky sides. More lobelias and groundsels grew precariously in small niches. A mountain stream rising from a spring in the gully splashed down towards the indefinable reaches of the Biega Marsh, 3000 feet below; its freezing waters flowed over rock faces and through caverns hanging with huge dripping mosses. Pic Kahusi is unique in being covered with giant heathers as much as fifteen feet tall, their trunks twisted in grotesque contortions and covered with a thick sodden cushion of mosses and liverworts. A few brave birds tolerated this cold biting atmosphere of mists and rain, one of them an iridescent sunbird of kingfisher blue, red, yellow and green. We did not see any animal life on either peak except for two athletic striped mice. However, one warm morning when the sun shone brightly, the ground became alive with grasshoppers, cockroaches and beetles, all of which disappeared when the rains came again.

On our last morning the air was crystal clear; we rolled out of our sleeping bags at six to behold a sight we shall never forget. Below, the dark forested hills tumbled down towards the lake, with its bays and peninsulas looking small and distant against the still, steel-blue waters. The island of Idjwi spread out as clear as a map and, behind, the heights of Ruanda Urundi rose into the orange and grey of the dawn. Looking northwards above the small silhouetted clouds tinted by the early morning rays, the huge massifs of the volcanoes penetrated the stillness. Away to the west it was still night—the black forbidding hills, mists resting in the valleys and the billowy clouds just illuminated by the slanting light.

And so the Cambridge Congo Expedition 1959 came to an end. A week later we were driving northwards up the lake and passing the volcanoes we had seen from the top of Kahusi over 100 miles away. This last week was one of intense activity as we sorted our 2000 pressed plants and numerous bottles of animals, which had to be packed securely for the 6000 miles back to England. All that was left behind when five bearded explorers climbed on the lorry bound for Uganda was milk powder, vinegar and soap.